

IN THE CLAIMS

- 5 1. A fabricated resin product for laser welding comprising:
a first laser beam transmitting resin part comprising laser-beam transmitting
black colorant which absorbs visible light of wavelength of less than 700 nm and
transmits a laser beam at wavelength in the range of 800 nm to 1200 nm, and a second
laser beam absorbing resin part comprising laser-beam absorbing black colorant,
10 wherein said first resin part is joined to said second resin part by a laser beam
transmitted through said resin part and absorbed in said second resin part.
2. The fabricated resin product of Claim 1 where said resin part is polyamide or
polyester.
3. The fabricated resin product of Claim 2 wherein said resin part is a polyester
15 resin selected from the group consisting of polyethylene terephthalate,
polypropylene terephthalate, polybutylene terephthalate, polyethylene 2,6-
naphthalate, polycyclohexane dimethylene terephthalate and copolymers and
mixtures thereof.
4. A resin composition suitable for transmitting a laser beam, comprising a resin and
20 laser beam transmitting colorant and having a transmission rate ratio ($T_{\text{black resin}}$
for laser transmission $T_{\text{natural resin}}$) of 0.5-1.2 wherein the transmission rate of said resin
composition containing said black colorant is compared to the transmission rate
of said resin alone for laser beams with wavelength at 1064 nm.
5. The composition of claim 4 wherein said transmission rate ratio is 0.5-1.2 for laser
25 beams with wavelength at 940 nm.
6. The composition of claim 4, wherein said composition comprises said laser beam
transmitting black colorant comprising the inorganic salts in amount of less than
2 weight percent.
7. The composition of claim 5 wherein said composition comprises said laser beam
30 transmitting black colorant comprising the inorganic salts in amount of less than
2 weight percent.
8. The composition of any of claims 4-5 wherein said composition comprises said
laser beam transmitting black colorant comprising Ca in amount less than 5000
ppm.

9. The composition of any of claims 4-5 in which said laser beam transmitting black colorant is a blend of blue dye or green dye with red dye and optionally yellow dye.
10. The composition of any of claims 4-5 in which said laser beam transmitting black colorant comprises an anthraquinone dye.
11. The composition of any of claims 4-5 in which said laser beam transmitting black colorant is a blend of blue dye or green dye of anthraquinone dye, red dye of perinone, dye and yellow dye.
12. The composition of any of claims 4-5, in which said laser beam transmitting black colorant comprises monoazo complex dye.
13. A resin composition suitable for absorbing a laser beam, comprising a resin and laser-beam absorbing colorant, and having a transmission rate ratio ($T_{\text{black resin for laser transmission}} / T_{\text{natural resin}}$) of 0-0.2 and wherein the transmission rate of said resin composition containing said laser beam absorbing black colorant is compared to the transmission rate of resin alone.
14. The composition of Claim 13 wherein said laser beam absorbing black colorant further comprises at least one black colorant selected from the group consisting of carbon black, phthalocyanine compounds, nigrosine dyes and aniline black.
15. The composition of Claim 13 in which the said laser beam absorbing black colorant comprises a mixture of carbon black and nigrosine dye.